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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,041	04/15/2002	Belkacem Benyoub	099998.000010	7392

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/018,041

Applicant(s)

BENYOUB ET AL.

Examiner

Jennifer T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office action is responsive to amendment filed on 6/20/05.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker et al. (Patent No.: US 5,815,606) in view of Oliveras et al. (WO 97/34253) and further in view of Sethi et al. (Patent No. US 6,269,353).

Regarding claim 5, Baker teaches a method for transforming a digital image (i.e., gray scale matrix) of a mail item comprising an address information and having several gray levels into a binary image (i.e., binary matrix) having pixels each coded by one bit, in order to automatically read the information address from said binary image (col. 1, lines 60-63, col. 3, line 28 to col. 4, line 8, col. 4, line 63 to col. 5, line 36).

Baker differs from claim 5 in that he does not specifically teaches applying to each current pixel of said digital image several different parallel binarization processes; and combining, for each current pixel of the digital image, the binary values delivered by the different processes for obtaining a corresponding current pixel of the binary image, wherein one of said parallel binarization processes is a neural classifier having a set of weights for neurons learned from a backpropagation method onto synthesized images of mail items, said neural

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classifier translating a vector of data characterizing the environment of said current pixel in the digital image into a binary value.

Referring to Fig. 4, Oliveras teaches several different parallel binarization processes (4112A-4112N), and

combining (4113), for each current pixel of the digital image, the binary values delivered by the different processes for obtaining a corresponding current pixel of the binary image (page 18, lines 15-21).

Sethi teaches a neural classifier having a set of weights for neurons (i.e., weight vectors) learned from a backpropagation method onto synthesized images, said neural classifier translating a vector (i.e., training vector) of data characterizing the environment of said current pixel in the digital image into a binary value (col. 6, line 54 to col. 7, line 14, lines 41-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the parallel different binarization processes as taught by Oliveras and neural classifier with backpropagation method as taught by Sethi in the system of Baker in order to allow the best account to be taken of the diversity of printing of the characters in the digital images having several gray levels and yielding better classification of the underlying relationships in the data.

Regarding claim 7, the combination of Baker, Oliveras, and Sethi teaches the neural classifier has undergone several learning phases by backpropagation in order to construct so many different sets of weights for the neurons of the neutral classifier (col. 7, lines 3-14, lines 41-48 of Sethi). Although it does not specifically teach various sets of weights being held in memory in mail processing machine in which these sets of weights can be selectively retrieved.

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However, it would have been obvious to obtain a memory to store various sets of weights in the training process of the backpropagation process in order to achieve the desired response for each output layer neuron for a given input training vector (col. 7, lines 3-14 of Sethi).

4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Applicant's arguments with respect to claims 5-7 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edouard Patrick can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JNguyen  
9/10/2005

  
REGINA LIANG  
PRIMARY EXAMINER